

Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

No claim has been canceled, added, or amended.

Listing of Claims:

1. (Previously presented) An illumination device, comprising:

an incoherent solid state light source adapted to emit light over at least one light emission surface and having a total light emission surface area S_0 ; and

a solid light guide having an entrance aperture adapted to receive the light from the incoherent solid state light source and a first surface that is configured to reflect the light within the solid light guide by total internal reflection, and

a light extraction device adapted to extract the light from the solid light guide and output the light from the incoherent solid state light source,

wherein the light extraction device has a refractive index that substantially matches a refractive index of the solid light guide, and includes a surface area S_1 that is in optical contact with the solid light guide and extracts the light by preventing the total internal reflection at the surface area S_1 ; and the surface area S_1 of the light extraction device is smaller than the surface area S_0 .

2. (Previously presented) The illumination device of claim 1, wherein the incoherent solid state light source includes a single extended LED.

3. (Previously presented) The illumination device of claim 1, wherein the incoherent solid state light source includes an array of LEDs.

4. (Previously presented) The illumination device of claim 1, wherein the surface S_1 has a rectangular shape and an aspect ratio of 16:9.

5. (Previously presented) An illumination device, comprising:

an incoherent solid state light source adapted to emit light over at least one light emission surface and having a total light emission surface area S_0 ;

a solid light guide, coupled to the light source, that includes a reflective layer disposed directly on and covering the incoherent solid state light source and a first surface that reflects the light within the light guide by total internal reflection; and

a refractive index matching material disposed on a surface area S_1 of the first surface that extracts the light from the solid light guide by preventing the total internal reflection at the area S_1 and outputs the light from the incoherent solid state light source,

wherein the surface area S_1 is smaller than the surface area S_0 .

6 (Canceled)

7. (Previously presented) The illumination device of claim 5, wherein the surface area S_1 has a rectangular shape and as aspect ratio of 16:9.

8. (Previously presented) An illumination device comprising:

an incoherent solid state light source adapted to emit light over at least one light emission surface and having a total light emission surface area S_0 ;

a light circulation device including a solid light guide that includes at least one light receiving surface adapted to receive the light from the incoherent solid state light source, and at least one light reflecting surface adapted to reflect the light by total internal reflection, and

light extraction means for extracting the light from the reflecting surface of the light circulation device

wherein the light extraction means has a light extraction surface of area S_1 in contact with the reflecting surface, and has a refractive index that substantially matches a refractive index of the light circulation device thereby extracting the light by preventing the total internal reflection at the light extraction surface, and S_1 is smaller than S_0 .

9 (Canceled)

10. (Previously presented) The illumination device of claim 8, wherein the light circulation device includes a reflective material disposed on a surface of the light guide that does not support total internal reflection.

11 (Canceled)

12. (Previously presented) The illumination device of claim 8, wherein the light extraction means includes a light collimating structure.

13. (Previously presented) The illumination device of claim 8, wherein the light extraction means includes a compound parabolic collimator.

14. (Previously presented) The illumination device of claim 8, wherein the light extraction means includes a prismatic optical component.

15. (Previously presented) The illumination device of claim 8, including a reflective polarizer disposed in an optical path between the light extraction area and the light extraction means, wherein the light circulation device includes at least one diffusing reflector disposed at a sidewall thereof.

16. (Previously presented) The illumination device of claim 8, wherein the light circulation device includes at least one specular reflector disposed at a sidewall thereof, said illumination device further comprising:

a reflective polarizer disposed in an optical path between the light extraction area and the light extraction means; and

a quarter wavelength foil in an optical path between the specular reflector and the reflective polarizer.

17. (Previously presented) The illumination device of claim 8, wherein the light circulation device includes at least two light receiving surfaces and the incoherent solid state light source includes at least two light-emitting components, each light-emitting component being disposed adjacent to and confronting a corresponding one of the light receiving surfaces.

18. (Previously presented) The illumination device of claim 8, wherein the light circulation device has a cross-section thickness that is less near the light extraction area than at the light receiving surface.

19. (Previously presented) The illumination device of claim 8, including:

- a second incoherent solid state light source adapted to emit light over at least a second light emission surface,
 - wherein the light circulation device includes at least a second light receiving surface adapted to receive the light from the second incoherent solid state light source, and
 - wherein the two incoherent solid state light sources each emit light having a different spectral color.

20. (Previously presented) The illumination device of claim 8, wherein the incoherent solid state light source includes a single extended LED.